FROM FIELD AND STUDY

Notes on the Habits of the Water Ousel (Cinclus mexicanus).—My attention was first drawn to these birds by a gentleman who claimed he had seen them eat young salmon. At the first opportunity I began watching to see if I could verify his statement.

The birds are seen at all hours of the day flying near the surface of the water, chasing each other from stone to stone, until they alight on some large boulder where they sit and sing. The song is as clear as a linnet's and considerably louder. The first time I heard one singing was on the 15th of October. The old birds were feeding their young until October 7, and whether this prevented their singing, or whether they do not begin to sing until cold weather, as the people here say, I cannot just now definitely state.

So far as I have been able to observe, their food consists of insect larvæ, water-bugs, and salmon eggs and young fry. In their search for food they alight on the surface of the water and paddle about with their wings, their feet, I believe, being absolutely useless at this time. They can make headway easily against a strong current. In moving over the water they dip their head at intervals beneath the surface, drawing the white, nictitating membrane over the eyeball before each dip. In this way they locate their food before diving. Once the food is seen they dive immediately and bring it up in their bill, swallowing after they reach the surface. They always come to the surface in nearly exactly the same place that they go down, and I have seen them dive repeatedly for salmon eggs, and bring them up, in two feet of swift water. Their stay under water is short, not longer than ten seconds.

The larva of a small black fly that infests the waters here, and attaches itself to every submerged stone or stick, forms a great part of the food of the ousel. He perches himself on a rock in mid-stream, dives above it, allows the current to carry him back past the stone, and tears off the larva as he goes by.

One bird found his way into the hatching house, one day, through the aperture which allows the water to come in from the flume outside. The hole is submerged three inches under water, yet the bird never hesitated when frightened to find the opening and go out.—J. S. BURCHAM, *Lilooet, B. C.*

Eggs of Flammulated Screech Owl and Western Evening Grosbeak taken in Estes Park, Colorado.—There was taken in Estes Park, Larimer Co., Colorado, by my 'hired assassin' last June, 1903, two sets of eggs of three each of the flammulated screech owl (*Megascops flammeola*) with two female birds. There was taken also the nest, a set of four and the parents of the western evening grosbeak (*Coccothraustes vespertinus montanus*). The eggs were prepared successfully.—FRED M. DILLE, *Longmont, Colo.*

[Mr. Dille has promised an account of these 'finds,' with photographs, for an early issue.—ED.]

California Vulture in San Mateo Co., California.—One afternoon about the middle of January (1904) Prof. Harold Heath of Stanford University saw a California vulture (*Gymnogyps californianus*) a short distance west of the university, near a place locally known as the 'Basaltic Columns.' What was probably the same individual was again seen a week later by Mr. Ernest Dudley, about a mile from the first station.—WALTER K. FISHER, *Palo Alto, Cal.*

Notes on the Birds of Hoopa Valley, California[a].—Hoopa Valley is a curious little Upper Sonoran 'island' tucked away among the mountains of Humboldt county. It is not more than six miles long by two broad and is a mere widening of the canyon of Trinity River about twelve miles south of the mouth. The valley occupies the center of the Hoopa Indian reservation, and is a secluded spot of great natural beauty. Steep mountains rise on all sides, pierced only on the north and south by the narrow canyon of the Trinity. These mountains are on the borderland between Humid and Arid Transition and they possess a singular charm from the large proportion of deciduous trees which one encounters; black, *garryana*, golden-cup and tanbark (*densiflora*) oaks, chinquapins (*Castanopsis chrysophylla*), and madrones being mixed with Douglas spruces, incense cedars, and a few yellow and sugar pines.

But it is the valley which claims our attention. Here are groves of digger pine (*Pinus sabiniana*), and thickets of *Ceanothus cuneatus* and *Arctostaphylos manzanita*, red-bud (*Cercis occidentalis*), Christmas-berry (*Heteromeles arbutifolia*), *Smilax californica*, and wild grape (*Vitis californica*). All will be recognized as characteristic Upper Sonoran species.

The following birds are found about the borders of the valley or in the mountains near. They are the ordinary Transition species occurring in the coast ranges. Starred * species are rare:

a. The easiest way to reach Hoopa Valley is by wagon road from Blue Lake, near Humboldt Bay. The writer had a drive of two days from this place over the Hoopa mountains, and spent from May 29 to June 7, 1899 either in the valley or in the mountains near.

Oreortyx pictus
Lophortyx californicus (Sonoran also)
Dryobates villosus harrisi *
Colaptes cafer collaris
Selasphorus (alleni?)
Contopus richardsoni *
Cyanocitta stelleri carbonacea
Contopus borealis * (higher mountains only) Canadian
Junco hyemalis thurberi
Piranga ludoviciana
Geothlypis tolmiei
Cinclus mexicanus
Merula migratoria propinqua

The following 'non-committal' species, indicative of no zone in particular, occur mostly in the valley:

Cathartes aura
Buteo borealis calurus
Falco sparverius
Corvus americanus
Scolecophagus cyanocephalus
Hirundo erythrogastra
Petrochelidon lunifrons

Finally the species found exclusively in the valley are with few exceptions diagnostic of the Upper Sonoran zone. Such forms are familiar birds throughout this zone in California, and are marked thus *.

Zenaidura macroura. * Common everywhere in the valley. Though this is a wandering bird it breeds most frequently in the Upper Sonoran zone.

Tyrannus verticalis. * A common bird in the open valley.

Aphelocoma californica. * This proved to be an abundant bird, spending much time in young groves of *garryana* oaks. The bird taken was gorged with spiders. Joseph Grinnell has separated the jay of the Willamette Valley, Oregon, under the subspecific name *immanis*, on the strength of its exceptionally long tail and somewhat stouter build. The Hoopa bird is clearly *californica*, as are those from Siskiyou and Lassen counties, which I have examined. On the other hand a specimen from Klamath Falls, Oregon, is precisely intermediate.

Sturnella neglecta. * Common. (Breeds also in Transition.)

Carpodacus mexicanus frontalis. Rare.

Chondestes grammacus strigatus. * Abundant in open.

Spizella socialis arizonæ. Common in digger pine groves and *Ceanothus cuneatus* thickets.

Pipilo maculatus oregonus. Common.

Pipilo crissalis. * Common, and a characteristic bird of the valley.

Zamelodia melanocephala. * Common.

Cyanospiza amœna. * Common, especially in the *Ceanothus cuneatus* thickets.

Vireo gilvus swainsoni. Very common.

Dendroica æstiva. A common bird among the willow thickets and smilax tangles by the river.

Dendroica nigrescens. * Several were observed among the *Ceanothus cuneatus* and digger pine thickets.

Icteria virens longicauda. * A common and characteristic bird; one continually heard but not often seen. I heard one sing at intervals till late at night, though there was no moon.—WALTER K. FISHER.

Cactus Wrens.—Since the appearance of Mr. Swarth's paper on "The Status of the Southern California Cactus Wren" I have had an opportunity to examine Mr. Anthony's series of *Heleodytes*. As these, with the entire collection, are to go east and will be lost to western workers I made a hasty study of them, with Mr. Anthony's permission, as being the last opportunity. I sum up my conclusions as follows.

The distribution of *affinis* is southern Lower California; that of *bryanti* is central and northern Lower California, blending into *couesi* (or *anthonyi*) near the border. In the specimens which I examined more *couesi* were from south of the border than *bryanti* from north of it. A male and a female from San Diego I should assign to *bryanti*.

I feel doubtful of the status of *anthonyi* Mearns, as I have no skins from Texas for comparison, but, like Mr. Swarth, I am inclined to consider it a synonym of *couesi*. The Anthony collection includes half a dozen New Mexican examples. A superficial examination did not show much difference in size or shape of bill or in general proportions. I did not have time to make detailed measurements. The separation of the various subspecies seems to rest on coloration. The color differences are mainly as follows.

Affinis: tail with the intermediate rectrices nearly as well barred with white as the outer ones; abdomen with scarcely any fulvous tinge; entire lower surface, from bill to tail, nearly evenly spotted with black, these spots rounded in form; crown light colored, vandyke brown or mummy brown; ground color of back reddish bistre; white stripes of back distinct, linear.

Bryanti: tail nearly as perfectly barred as in *affinis*; abdomen with a fulvous tinge, intermediate in depth between *affinis* and *couesi*; throat with heavier spots, contrasting with the less

spotted belly; crown sepia; ground color of back bistre; white stripes of back with a tendency to break up into two sagittate or cuneate spots through invasion of the median part of the blackish parallel borders.

Couesi, (or *anthonyi*, if distinct from *couesi*) as found in California: tail with the intermediate rectrices mostly black, the white bars on the inner webs often reduced to one or two white spots; ground color of abdomen and flanks fulvous; chin white; throat heavily spotted with black, sometimes nearly solid black, and strongly contrasting with the scantily spotted belly and flanks, the spots on these parts more or less linear; crown varying from seal brown on the coast (at San Diego) to sepia in the interior; the white stripes on the back in the Californian coast region and in Arizona and New Mexico are broken into spots as in *bryanti*, while in those from the Colorado Desert region they are linear as in *affinis*.—FRANK STEPHENS, *San Diego, Cal.*

Dusky Horned Lark in Lake County.—Mr. A. W. Johnson has recently sent me a specimen of *Otocoris alpestris merrilli* which he took at Red Hill Ranch near Upper Lake, Lake county, California, November 13, 1893. It was one of a large flock of similar birds which remained in the vicinity about three weeks. Mr. Johnson states that this is the only time that he has ever met with any sort of horned lark in Lake county, and doubtless the flock observed were winter visitants from the northeast. I also have a skin of *O. a. merrilli* taken by M. P. Anderson at Yreka, California, March 14, 1902.—J. GRINNELL, *Pasadena, Cal.*

THE EDITOR'S BOOK SHELF

THE BIRDS OF FERGUS COUNTY, MONTANA. By P. M. SILLOWAY. Bulletin No. 1, Fergus County Free High School. 8 vo. 78 pages; numerous halftone plates. Lewistown, Mont. 1903.

The Birds of Fergus County, Montana, is really a handbook of the birds to be found in central Montana. An introductory sketch of the topography of Fergus county, with map, is followed by a Partial Bibliography of Montana Birds. Under each species biographical and distribution notes are recorded, with a paragraph on "Distinguishing Features"—a brief description to aid the general reader in recognizing the bird. An analysis of the list, given at the end, shows that thirty species are permanent residents; 101 species summer residents, 31 species migrants, 13 species winter residents or visitors, and 4 other visitors; total 179 species. Numerous halftones of live birds, nests and eggs, by M. J. Elrod and E. R. Warren, add much to the usefulness of this excellent piece of work.

PAPERS FROM THE HOPKINS-STANFORD GALAPAGOS EXPEDITION, 1898-1899. XVI BIRDS. By ROBERT EVANS SNODGRASS and EDMUND HELLER. From Proc. Wash. Acad. Sci. V, Jan. 28, 1904, pp. 231-372.

In this paper the authors present the ornithological results of their explorations among the Galapagos Archipelago, and 109 species and subspecies are listed, extending through 31 families. Under each species is given pertinent synonomy, range, field observations and often critical notes. Measurements and notes on life colors are also frequently included. Naturally the greatest interest centers about the various species of the three peculiar Galapagos genera, *Geospiza*, *Certhidea* and *Nesomimus*, the accounts of which are particularly full, including description of plumage stages, pterylosis, color of bills, relationship between color of bill and plumage, and maturity, nature of change from one phase of plumage to next—moulting, habits, song, nests and eggs.

In the case of those species which include several races the authors have made an innovation. "A number is given to each species of a genus, and this number is intended to stand, not for the form first named, but for the sum of all the subspecies, where subspecies that compose the species occur, not this number and a letter for each of the other subspecies as in the A. O. U. Check List. Each variety of a species is lettered. Thus: 63, *Geospiza fortis* consists of 63a, *G fortis fortis*, 63b, *G. fortis fratercula*, etc; not 63, *Geospiza fortis*; 63a *G. fortis fratercula*." In the text the word "series" follows the species heading, thus: 55. THE GEOSPIZA PROSTHEMELAS SERIES. *Cactospiza*, *Camarhynchus* and *Cactornis* are regarded as subgenera of *Geospiza*.

The present paper is a very carefully prepared and valuable contribution to our knowledge of the avifauna of the Galapagos.

A REVISION OF THE AMERICAN GREAT HORNED OWLS. By HARRY C. OBERHOLSER. From Proc. U. S. Nat. Mus. XXVII, 1904, p. 177-192.